

## **Late Archaic Flaked Stone Artifacts on Lake Erie's Western Basin Southern Shore, in and around the Cedar Point National Wildlife Refuge Complex, Oak Harbor, Ohio**

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### **Abstract**

Several water-worn Late Archaic artifacts were found on the Lake Erie coast in or near the Cedar Point National Wildlife Refuge. We describe these artifacts and note their context relative to other Late Archaic occupations in the immediate area. These artifacts signify the need to survey and conserve the remaining lakeshore/beach ridge landforms in the western basin of Lake Erie and their still extant archaeological components.

### **Introduction**

Professional archaeologists and citizen scientists have regularly documented archaeological finds on the shores of Lake Erie (Stothers and Abel 2001). Given that Lake Erie's water level did not reach its modern shoreline until about 5000-4500 radiocarbon years BP (Lewis et al. 2012), some of these finds likely washed onto shore from Paleoindian, Archaic, and Woodland sites that are currently under water. Other archaeological finds, however, may have eroded out of buried terrestrial sites near the present-day shoreline. Here, we describe nine definite and four possible flaked stone artifacts found on Lake Erie's southwestern shoreline beach, part of which is within Ohio's Cedar Point National Wildlife Refuge (CPNWR) (Figure 1).

The CPNWR is part of the broader Ottawa National Wildlife Refuge Complex (ONWRC). Significant erosion of lakefront beaches on the ONWRC has been occurring over the last five years due to very high to record Lake Erie water levels. Erosion typically is most significant during sustained strong easterly winds that cause elevated local lake levels during seiches, and due to wave erosion. The most substantial ONWRC beach areas occur at CPNWR, which in the past was a barrier sand beach coastal wetland area. Potential for historic and prehistoric finds along the remnant barrier beaches is potentially very high. In the past these sites were likely used at least seasonally as resting or staging points for indigenous hunting, fishing, and gathering (especially wild rice) activities in the Lake Erie coastal marshes.

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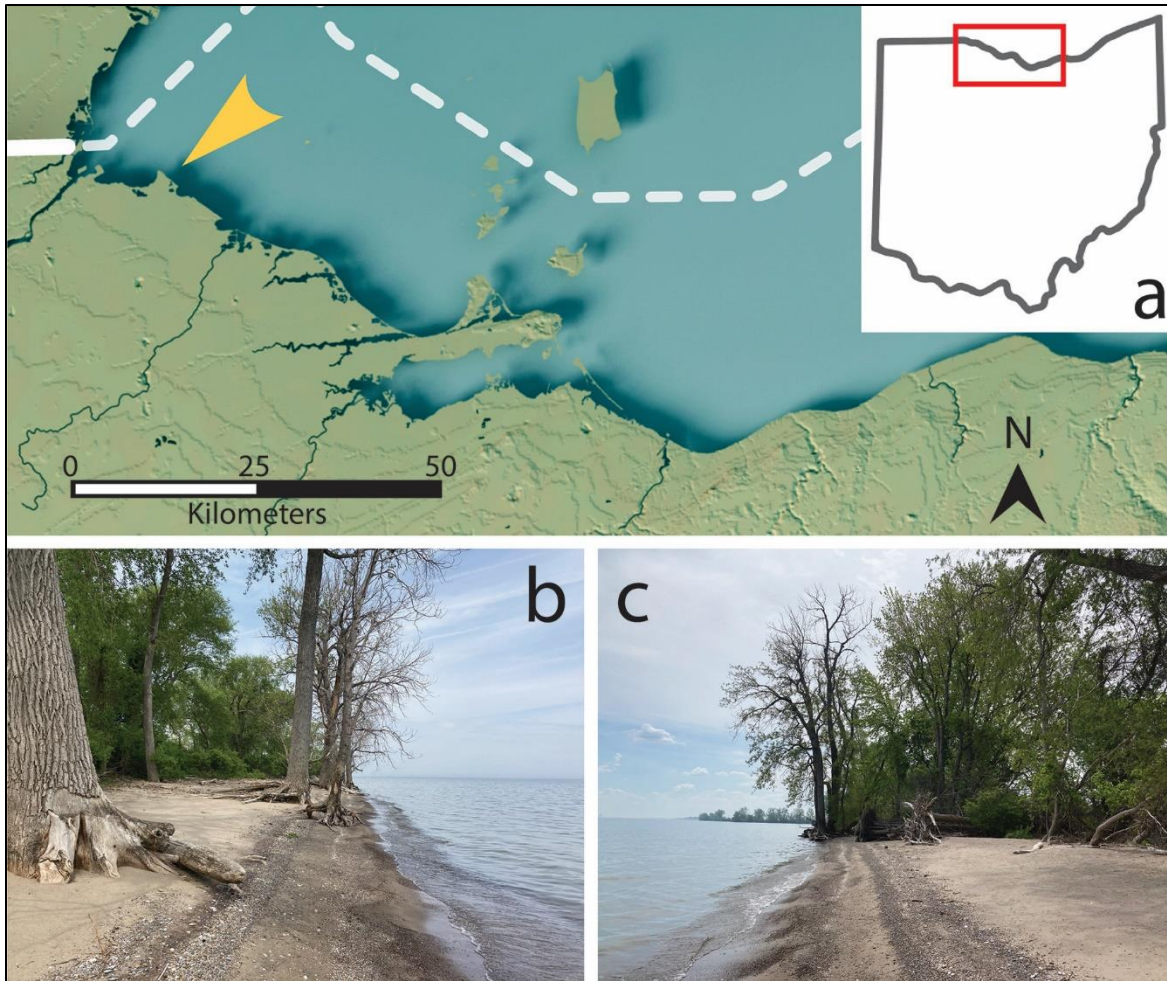
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**Figure 1. General location of where the Late Archaic artifacts were found, indicated by the arrow (top). Images of the shoreline where the Archaic artifacts were found (bottom).**

Estimated loss of lakeshore beach at some locations at CPNWR is 30-60 meters from Lake Erie inland over the last five years. The loss of beach, which includes cutting of the beach ridge by depths of 0.5-1.5 meters or more, is in effect exposing layers that have not been exposed for decades, if not much longer periods of time. Although collection of cultural resources is prohibited on National Wildlife Refuges, unauthorized collection may be occurring as some beach locations are popular boating, swimming, and resting areas.

During 2019-2020, R.H., a biologist at ONWRC, found three projectile points and four possible knapped flakes on the shore. Due to the COVID pandemic, a site visit by M.I.E., M.R.B., and T.B. did not occur until May 2021 after all parties were vaccinated. No artifacts were found during the day-long visit, but an additional five points and one preform were found by R.H. and his ONWRC associates during the summer and fall 2021.

### **Artifact Descriptions**

Following Justice (1987), M.I.E. identified the five complete and finished projectile points as Late Archaic styles. The other three finished projectile points—all distal portions—are consistent with Late Archaic styles and possess morphologies that match the finished specimens, but a definite determination could not be made. M.I.E. made preliminary stone raw material macroscopic identifications following DeRegnaucourt and Georgiady 1998. Basic descriptive measures are provided in Table 1. All artifacts are currently curated and available for study at the ONWRC.

#### *Specimen #1, projectile point (Figure 2A; Figure S1)*

This unbroken specimen exhibits a style consistent with the Table Rock Cluster (3000-1000 BC). Made from chert macroscopically consistent with Flint Ridge chalcedony, this specimen appears to be somewhat battered as evidenced by the “crunched” lateral edges. One face exhibits well-spaced flakes, but the alternate face possesses a large flake scar extending from the left lateral edge. The combination of mass removed by this large flake scar, and the irregular flaking on this same face’s tip, has caused the point to appear asymmetrical in profile-view form.

#### *Specimen #2, projectile point (Figure 2B; Figure S2).*

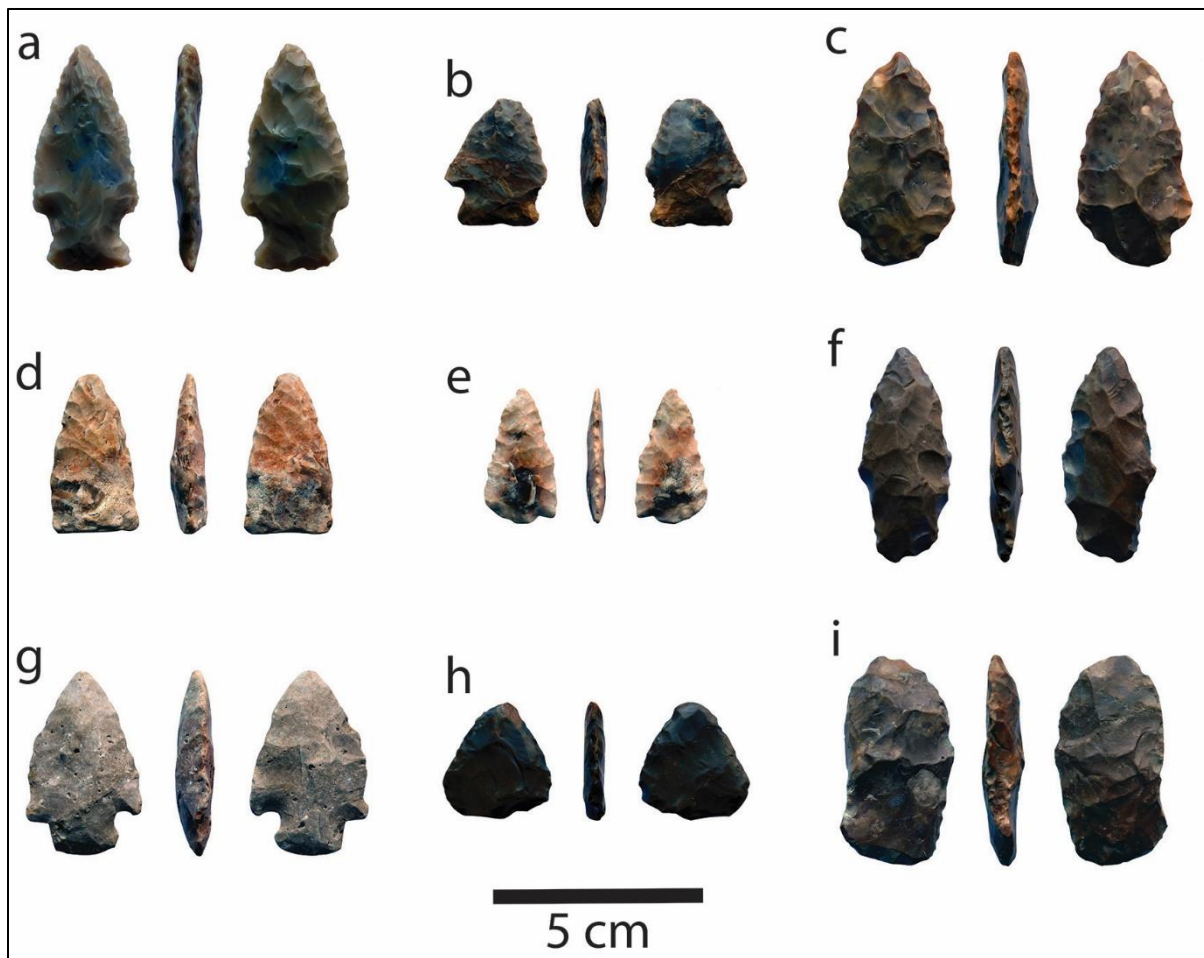
This unbroken specimen was collected at Darby unit beach, approximately 35 coastline kilometers from the other artifacts. It exhibits a style consistent with the Brewerton Corner Notched Cluster (2980-1723 BC). Made from chert macroscopically consistent with Flint Ridge Nethers Variety, this specimen exhibits a prominent impact scar that extends to the stem on one face. One shoulder has broken off. The edges of this point are sharp, suggesting that it had not experienced much battering due to wave action. However, it is curious that the face opposite that with the impact scar possesses three flake removal remnants.

#### *Specimen #3, projectile point (Figure 2C, Figure S3).*

This specimen is mostly unbroken except for part of the stem. It exhibits a style consistent with the Table Rock Cluster (3000-1000 BC) and macroscopically appears to be made from Pipe Creek chert. This point is heavily battered and water-worn.

#### *Specimen #4, projectile point (Figure 2D, Figure S4).*

This projectile point is missing its base. It is smooth from water-wear and battering. No macroscopic chert identification could be made. This specimen macroscopically appears to be made of Bisher chert and is morphologically consistent with Specimens #1, #3, and #6.



**Figure 2. The nine Late Archaic projectile points as described in the text.**

*Specimen #5, projectile point* (Figure 2E, Figure S5).

Smallest of the eight projectile points, this specimen is also smoothed from water-wear and battering. No macroscopic chert identification could be made, and no style designation could be made given that the specimen is only a distal portion.

*Specimen #6, projectile point* (Figure 2F, Figure S6).

This unbroken specimen is stylistically consistent with the Late Archaic Lamoka Cluster (3500-1800 BC). Its gray chert, as revealed from some recent chips, is macroscopically consistent with Delaware chert. In addition to being arguably the most water-worn and battered specimen—as evidenced by difficult-to-see flake scars and rounded edges—it exhibits a brownish patina over most of its surface area.

*Specimen #7, projectile point* (Figure 2G, Figure S7).

Another water-worn and battered specimen, this point is stylistically consistent with the Late Archaic Brewerton Corner-Notched Cluster (2980-1723 BC). This fossiliferous chert appears to be Bloomville chert. The specimen is plano-convex in morphology, with the plano-face exhibiting a stack from two step-fractures, each extending from an opposite edge.

*Specimen #8, projectile point* (Figure 2H, Figure S8).

This water-worn and battered projectile point is missing its base, and thus a stylistic designation could not be confidently made. However, given the width of this distal portion, it appears to be similar morphologically to Specimen #7. A dark brown patina covers most of the specimen's surface area, but the basal break reveals the chert color is dark grey and macroscopically consistent with Pipe Creek chert. The thinnest of all the projectile points, this point exhibits overface scars on each face.

*Specimen #9, preform* (Figure 2I, Figure S9).

This preform has an orange patina covering most of its surface area, but a small chip at its base reveals that it was made on a light gray chert consistent with Pipe Creek chert. One face exhibits two overshot flake scars, the distal end of one serving as the platform for the other. The alternate face still possesses what appears to be the original surface of the stone or flake upon which this preform was knapped.

*Specimens #10, #11, #12, and #13, possible flakes or blockshatter* (Figure 3).

Although they are all clearly produced from cherts, it is possible that natural processes produced these specimens. Unfortunately, their water-worn and battered appearance does not help with the determination of them as human- or nature-made. Specimens #10, #11, and #13 were found at the CPNWR, and Specimen #12 was found at Navarre Marsh beach, approximately 26 km east of CPNWR.

## **Conclusion**

A total of eleven precontact archaeological sites have been recorded within five km of where the majority of artifacts described above were recovered (Figure 4). The potentially most significant sites lie along the shoreline of the adjacent Maumee Bay State Park (Pratt 1986). Here lakeshore erosion has exposed projectile points dating from the Paleoindian to Late Precontact periods (ca. 11000 BC to AD 1600), along with Woodland ceramics. Unfortunately, most of these artifacts were found in disturbed or redeposited contexts caused by high lake levels. Yet, the artifacts described herein testify to the continuing need to survey and conserve the remaining lakeshore/beach ridge landforms in the western basin of Lake Erie and their still extant archaeological components.





**Figure 3. Possible Late Archaic stone flakes and debitage.**



**Figure 4. Close up map showing twelve documented sites (indicated by the stars) with Late Archaic components nearby the CPNWR. Site information was procured from the Ohio State Historic Preservation Office, Ohio History Connection. This figure was created by M.I.E. The base map is from GoogleEarth Pro (version 7.3.4.8248), TerraMetrics, NOAA.**

Lakeshore/beach ridge landforms in the western basin of Lake Erie and their still extant archaeological components.

### **Acknowledgements**

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### **References Cited**

DeRegnaucourt, Tony, and Jeff Georgiady

1998 *Prehistoric Chert Types of the Midwest*. Arcanum: Occasional Monographs Series of the Upper Miami Valley Archaeological Research Museum.

Justice, Noel D.

1987 *Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference*. Bloomington: Indiana University Press.

Lewis, C. F. M., Cameron, G. D. M., Anderson, T. W., Heil, C. W., & Gareau, P. L. (2012). Lake levels in the Erie Basin of the Laurentian Great Lakes. *Journal of Paleolimnology*, 47(3), 493-511.

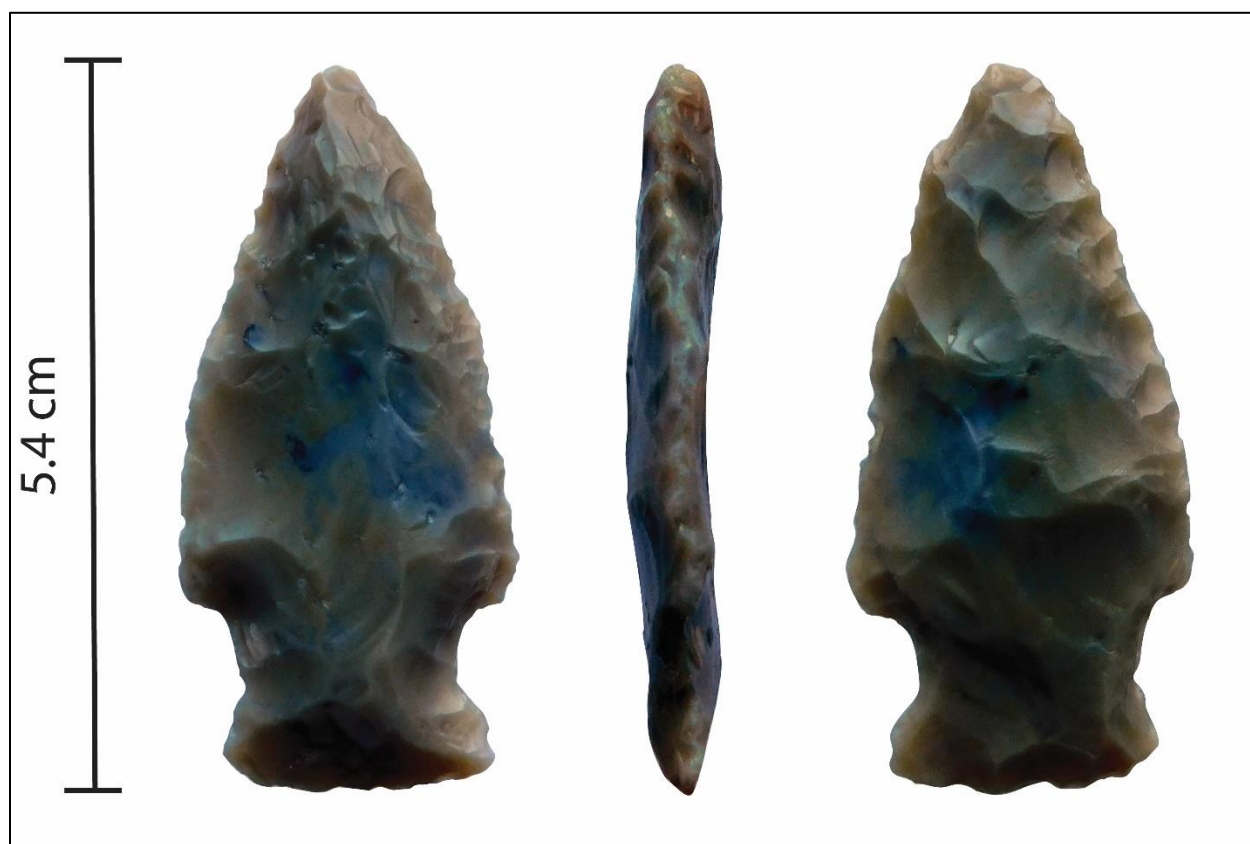
Pratt, G. Michael

1986 An Archaeological Assessment of the Eastern Portion of Maumee Bay State Park, Lucas County, Ohio. Unpublished report of reconnaissance and evaluation survey, Heidelberg Archaeological Survey, Heidelberg College, Tiffin, Ohio.

Stothers, David M. and Timothy J. Abel

2001 Vanished Beneath the Waves: the Lost History and Prehistory of Southwestern Lake Erie Coastal Marshes. *Archaeology of Eastern North America* 29: 19-46.

**Supplemental Material**



**Figure S1. Specimen #1.**



**Figure S2. Specimen #2.**

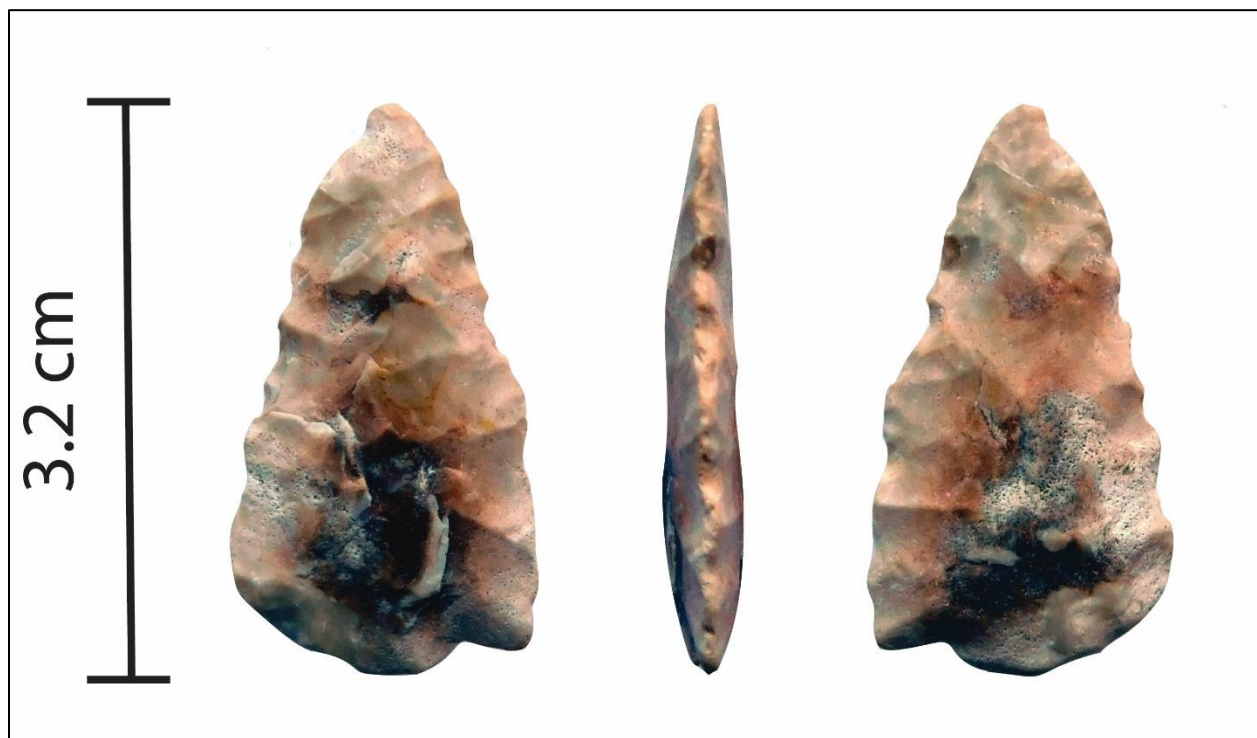




**Figure S3. Specimen #3.**



**Figure S4. Specimen #4.**



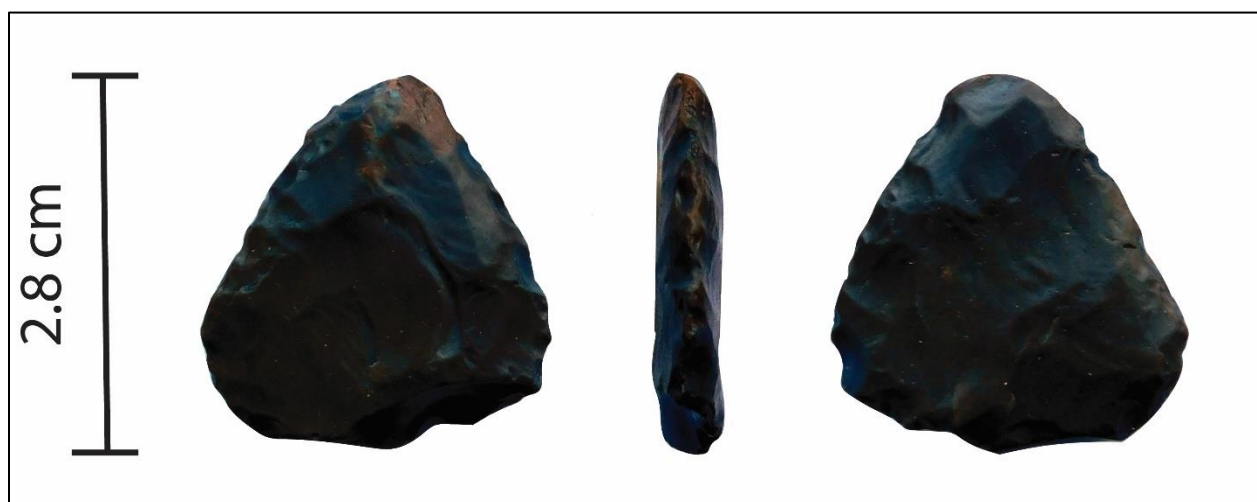
**Figure S5. Specimen #5.**



**Figure S6. Specimen #6.**



**Figure S7. Specimen #7.**



**Figure S8. Specimen #8.**



**Figure S9. Specimen #9.**